

US EPA ARCHIVE DOCUMENT

# Environmental Permitting for Healthcare Industry



**Mississippi DEQ**

**July 30, 2008**

# Major Media Programs

- **Construction Stormwater**
  - **Baseline Stormwater**
  - **Wastewater**
  - **Air Emissions**
  - **Hazardous Waste / Non-Hazardous Waste**
- 

# Construction Stormwater

- Permit generally issued to contractors
- New or expansion projects > 1 acre
- Projects > 5 acres submit LCNOI
- Establishes Best Management Practices (BMPs)
- Terminated after site is stable

# Baseline Stormwater

- Issued to Owner/Operator of facility
- Addresses threats to runoff contamination
- Establishes Best Management Practices (BMPs)
- Hospitals generally are not subject to Baseline Stormwater Permitting

# Questions about Stormwater?



# Wastewater

- **Pretreatment Program: discharge to City Wastewater Treatment Plant (POTW)**
  - Most common for medical centers
- **NPDES Program: discharge to a Water of the State**
  - National Pollutant Discharge Elimination System

# Wastewater

- **Pretreatment**
  - Permit is usually not required for Hospitals and Medical Centers
  - Generally, Hospital wastewater is non-regulated....
    - Condensate
    - Boiler blowdown
    - Sanitary (sinks, toilets, baths, etc.)
    - Floor drains
    - Kitchen drains



# Wastewater

- **Pretreatment, cont.**
  - **Hospitals are Non-categorical**
    - No federal Pretreatment standards apply
  - **Hospitals are Non-significant (usually)**
    - < 25,000 gallons process WW per day
    - < 5% of organic and hydraulic capacity of POTW

# Wastewater

- **Pretreatment, cont.**
  - **Process wastewater could include:**
    - **Laundry washing machines**
    - **Photographic / X-ray imaging processes**
    - **Dentists (amalgam containing mercury)**
  - **Follow local city ordinances, restrictions**
  - **If Pretreatment does apply, use Form 2-P**

## Pretreatment Form 2-P

FORM 2-P

For Agency Use

Application Number \_\_\_\_\_

Date Received \_\_\_\_\_

STATE OF MISSISSIPPI  
OFFICE OF POLLUTION CONTROL  
P. O. BOX 2261  
JACKSON, MISSISSIPPI 39225-2261

## APPLICATION FOR A STATE OPERATING PRETREATMENT PERMIT

(Please print or type)

1. Name of Applicant:			
2. Mailing Address of Applicant:			
Number & Street (P. O. Box):			
City:		State:	Zip:
Telephone Number:			
3. Applicant's Authorized Agent:			
Name and Title:			
Number & Street (P. O. Box):			
City:		State:	Zip:
Telephone Number:			
4. Facilities Location:			
Number & Street (P. O. Box):			
City:		County:	
Latitude (Deg., Min., Sec.):			
Longitude (Deg., Min., Sec.):			
5. Nature of Business:			
6. Location Map: (Provide as an attachment to this application)			
7. SIC CODES (4-digit, in order of priority)			

# Wastewater

- **NPDES**
  - **Not an option if access to POTW connection**
  - **Federal Standard does apply (40 CFR 460)**
    - **pH limits**
    - **BOD<sub>5</sub> limits**
    - **TSS limits**
    - **Best Practicable Control Technology Currently Available**
  - **Would require NPDES Permit application..**



# Wastewater

- **Major Regulations**
  - **WPC-1 (State NPDES Regs)**
  - **WPC-2 (State Water Quality Criteria)**
  - **Federal Water Quality Criteria**
  - **303(d) List of Impaired Waterbodies**

# Questions about Wastewater?



# Air Emissions

- **Common Sources**
  - **Boilers**
  - **Emergency Back-up Power Generators**
  - **Laboratory Fume Hood**
  - **Storage Tanks**
  - **Incinerators**
    - **HMIWI (Hospital/Medical/Infectious Waste Incinerators)**



# Air Emissions

- **Boilers**
  - Natural gas, fuel oil fired
  - Products of Combustion
  - 8,760 hours/year calculation

# Air Emissions

- **Emergency Back-up Generators**
  - **Diesel fuel**
  - **Products of Combustion**
  - **500 hours/year calculation**
    - **N/A if selling power back to grid**

# Air Emissions

- **Lab Fume Hoods**
  - **Various Volatile Organic Compounds (VOC)**
  - **Hazardous Air Pollutants (HAPs)**
  - **OSHA regulated**

# Air Emissions

- **Storage Tanks**
  - **Various Volatile Organic Compounds (VOC)**
  - **Hazardous Air Pollutants (HAPs)**
  - **Register USTs at MDEQ's UST Branch**
  - **ASTs may be subject to SPCC**
    - **Spill Prevention Control Countermeasure**

# Air Emissions

- **Incinerators**
  - **Type 1: Solid Waste Only (cardboard, rubbish)**
  - **Type 2: HMIWI (Hospital/Medical/Infectious Waste Incinerators)**
    - **State Regulation APC-S-1, Section 12, HMIWI**
    - **Small, Medium and Large Classifications**
    - **PM, CO, Dioxins, HCl, SO<sub>2</sub>, NO<sub>x</sub>, Lead, Cd, Hg**
    - **Operator training & qualifications**
    - **Inspection guidelines**
    - **Compliance testing, monitoring**

# Air Emissions

- **Facility:** defined by entire campus
- **Facility-wide Emissions Inventory**
  - List all stationary sources
  - Specify PTE of all Regulated Air Pollutants (lbs/hr)
  - Total Annual PTE for each Pollutant (tons/year)
  - See what applies.....

# Air Emissions

- **Applicability Determinations**
  - **Permit to Construct (PTC)**
  - **Title V Operating Permit (TVOP)**
  - **Synthetic Minor Operating Permit (SMOP)**
  - **PSD Permit to Construct (PSD)**

# Air Emissions

- **Permit to Construct**
  - New Facility or Modification of an Existing One
  - APC-S-2, Section XIII, Exclusions
  - If required, apply early: 6 months before commencement of construction
  - Submit Application for a PTC/PTO



PTC/PTO  
Application  
Form

STATE OF MISSISSIPPI  
DEPT. OF ENVIRONMENTAL QUALITY  
OFFICE OF POLLUTION CONTROL  
P.O. BOX 2261  
JACKSON, MS 39225-2261  
(601) 961-5171

APPLICATION FOR  
AIR POLLUTION CONTROL PERMIT  
TO CONSTRUCT AND/OR OPERATE  
AIR EMISSIONS EQUIPMENT

TYPE OF PERMIT

- ☐ New Source  
☐ Modification  
☐ Renewal of Operating Permit  
☐ Existing Source Operating Permit

Name \_\_\_\_\_  
Location: City \_\_\_\_\_ County \_\_\_\_\_  
Facility No. (if known) \_\_\_\_\_

# Air Emissions

- **Title V Operating Permit (TVOP)**
  - **TV Major Source? Look at PTE (Potential to Emit)**
    - **Criteria Pollutants > 100 tons/year**
      - (PM, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC, Lead)
    - **Hazardous Air Pollutants (HAPs), 188 Listed HAPs**
      - **Single HAP > 10 tons/year**
      - **Combination of HAPs > 25 tons/year**
  - **Submit TVOP Application Form**
  - **Subject to TV Annual Fee (based on emissions)**

# TVOP Application Form

<u>FOR OFFICIAL USE ONLY</u>	
APPLICATION RECEIPT DATE:	_____
APPLICATION NO.:	_____
FOR MODIFICATION:	_____
REVISION:	_____

STATE OF MISSISSIPPI  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF POLLUTION CONTROL  
AIR DIVISION  
P.O. BOX 2261  
JACKSON, MS. 39225-2261  
PHONE NO.: (601) 961 - 5171

## APPLICATION FOR TITLE V AIR POLLUTION CONTROL PERMIT TO OPERATE AIR EMISSIONS EQUIPMENT

### PERMITTING ACTIVITY:

\_\_\_\_\_ INITIAL APPLICATION  
\_\_\_\_\_ MODIFICATION  
\_\_\_\_\_ RENEWAL OF OPERATING PERMIT

NAME: \_\_\_\_\_  
CITY: \_\_\_\_\_  
COUNTY: \_\_\_\_\_  
FACILITY No. (if known): \_\_\_\_\_

# Air Emissions

- **Synthetic Minor Operating Permit**
  - If actual emissions < TV major thresholds...
  - *May* apply for SMOP:
    - Take restrictions in operation so PTE < 100/25/10 tpy
      - e.g., Restrict hours per year
      - e.g., Restrict gallons of fuel per year
  - Submit SMOP Addendum w/ TVOP Applic.
  - No Annual Fees; less complex

# SMOP Addendum Form

STATE OF MISSISSIPPI  
DEPT. OF ENVIRONMENTAL QUALITY  
OFFICE OF POLLUTION CONTROL  
P.O. BOX 2261  
JACKSON, MS 39225-2261  
(601) 961-5171

## APPLICATION ADDENDUM FOR A SYNTHETIC MINOR OPERATING PERMIT

**NOTE:** This addendum may be affixed to the front of the Application for Title V Air Pollution Control Permit to Operate Air Emissions Equipment. If the addendum is used, all air emission sources, pollutants, and emission rates must be included in the application. There are no insignificant or trivial activities.

A Synthetic Minor Source is defined in Regulation APC-S-2 as: Any facility which would otherwise constitute a major source under Commission Regulation APC-S-6, "Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act", except that the owner or operator of the facility elects for federally enforceable emissions limitations which may include permit conditions restricting hours of operation, or type or amount of material stored, combusted or processed, or establishing more stringent air pollution control efficiency requirements to lower allowable emissions for air pollutants in the State Permit to Operate below applicability thresholds for a Title V major source.

Facility Name \_\_\_\_\_  
Facility Number (If Known) \_\_\_\_\_  
City \_\_\_\_\_ County \_\_\_\_\_

# Air Emissions

- **Prevention of Significant Deterioration**
  - **Need a PSD Permit to Construct if....**
    - **Constructing new facility > 250 tpy,**
    - **Modifying where changes > 250 tpy, or**
    - **Modifying a PSD Major Source (>250 tpy) where changes greater than PSD Significant Emission Rates:**
      - **> 40 tpy VOC, NO<sub>x</sub> or SO<sub>2</sub>**
      - **> 100 tpy of CO**
      - **> 25/15 tpy of PM/PM<sub>10</sub> respectively**

# Air Emissions

- **Major State Air Regulations**
  - APC-S-1 (Regs on Pollutants)
  - APC-S-2 (Regs on Permits)
  - APC-S-6 (Title V Regs)



# Questions about Air?





# Hazardous Waste

## WASTE MANAGEMENT



Regular Waste: Black Bag	Biohazardous Waste: Red Bag	Sharps Disposal Containers	Pharmaceutical Waste: Contact Pharmacy	Yellow Chemo Containers	Hazardous Waste
<ul style="list-style-type: none"> <li><input type="checkbox"/> Trash</li> <li><input type="checkbox"/> Paper, Wrappers</li> <li><input type="checkbox"/> Dressings</li> <li><input type="checkbox"/> Chux</li> <li><input type="checkbox"/> Diapers</li> <li><input type="checkbox"/> Gloves</li> <li><input type="checkbox"/> Empty Foley Bags and Other Drainage Bags</li> <li><input type="checkbox"/> Disposable Patient Items</li> <li><input type="checkbox"/> Sanitary Napkins</li> <li><input type="checkbox"/> Batteries (Alkaline only)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Blood and all OPIM (Other Potentially Infectious Material)</li> <li><input type="checkbox"/> Blood Tubing/ Bags/Hemovacs/ Pleurevacs</li> <li><input type="checkbox"/> Soaked/ Dripping Bloody Dressings.</li> <li><input type="checkbox"/> Empty Suction Canisters or those with absorbent material</li> <li><input type="checkbox"/> Suction Liners with Bloody Fluid or OPIM</li> <li><input type="checkbox"/> All Disposable Items Soaked or Dripping with Blood or OPIM</li> <li><input type="checkbox"/> Dialyzers and tubing</li> <li><input type="checkbox"/> Microbiology specimens, tubes bottles, and devices</li> <li><input type="checkbox"/> Human and Animal pathological wastes (label for incineration)</li> <li><input type="checkbox"/> All Disposable Items Contaminated with Blood/Body Fluids from Isolation Patients</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> All sharps (needles, blades, scalpels, razors, pins, clips, staples, wires, broken contaminated glass, disposable suture sets, biopsy forceps, and lancets)</li> <li><input type="checkbox"/> All empty syringes, tubexes, carpjects or those with <b>unpourable</b> amount of medication.</li> <li><input type="checkbox"/> Trocars, introducers, guide wires, sharps from procedures, specimen devices in endoscopy etc. (Use large volume sharps container if needed)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Glass Vials, ampules</li> <li><input type="checkbox"/> Syringes, tubexes, carpjects with residual (pourable) medication</li> <li><input type="checkbox"/> IV bags / tubing with residual medication</li> <li><input type="checkbox"/> Partially used/ residual prescription or over-the-counter medication <i>Example: vials, tablets, capsules, powders, liquids, creams/lotions, eye drops suppositories, 1/2 tablet</i></li> <li><input type="checkbox"/> Residual or wasted narcotics and/or controlled drugs</li> <li><input type="checkbox"/> Narcotic patches</li> </ul> <p><b>Unopened/Unused or Expired Medications: Return to Pharmacy Hazardous R.C.R.A.</b></p> <p><b>Pharmaceuticals:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Return to Pharmacy <i>Examples: Inhalers with residual (if empty-regular trash), unused nicotine gum or patches, nitroglycerine tablets, unused/residual acetone, coumadin, cough syrup with alcohol content greater than 24%</i></li> </ul>	<p><b>Trace Chemo:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> All supplies used to make and administer chemo medication <i>Example: tubing, empty bags/ bottles/ vials, syringes, gloves, pads, masks, gowns, wipes etc.</i></li> <li><input type="checkbox"/> Used Chemo spill Clean-up kits</li> <li><input type="checkbox"/> HEPA filters from Pharmacy laminar air flow hoods</li> </ul> <p><b>Return all unused Chemo to Pharmacy</b></p>	<p><b>Radioactive:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Call Radiation Safety Officer for disposal of all radioactive waste.</li> <li><input type="checkbox"/> Call Chemical Safety Officer for disposal of all chemical waste.</li> <li><input type="checkbox"/> All Non-Alkaline batteries</li> <li><input type="checkbox"/> Outdated/unused chemotherapy drugs (bulk)</li> <li><input type="checkbox"/> Mercury-filled devices, batteries, thermometers, &amp; blood pressure cuffs &amp; gauges</li> <li><input type="checkbox"/> Used solvents, stains, paints, and thinner</li> <li><input type="checkbox"/> Containers with "hazardous" label</li> <li><input type="checkbox"/> Formaldehyde &amp; formalin, acetone, toluene, mercury fixatives, barium, xylene, alcohol, disinfectants &amp; chemical sterilizing agents</li> </ul>

# Hazardous Waste

- Call Dallas Baker or Richard Harrell
- See previous presentations....



# EPA's Profile of Healthcare Industry

- Available in Adobe File



# Permitting Contact

- **Dallas Baker, Environmental Permits Division**
  - **601-961-5670**
  - **dbaker@deq.state.ms.us**
  - **www.deq.state.ms.us**
    - **Application Forms**
    - **Regulations**

# Final Questions

